

Dark Matter

To discuss ...

- What is the mysterious “something” that makes up 90% of the Universe..?
 - “Dark matter.”
 - No one knows what it is.
 - How do we know it’s there..?
 - The galaxies are turning too fast...so fast the stars should all fly apart. Something heavy with lots of gravity – something we can’t see – is keeping the stars from flying apart, and holding the stars in place.
 - Scientists have some ideas about what “dark matter” may be. Can you think of any ideas about what it might be..? (Nothing is too far out for this question..!)
- (Here’s some of the possibilities scientists are looking at...)
- Lots of ordinary stuff – gas, dust, or dark objects – floating around in space that, so far, our most powerful telescopes have been unable to see.
 - Lots of “black holes” that we can’t see.

Black holes are like “sinkholes” in space that can swallow up lots of material but don’t give off any light. So, they can be hard to find.
 - Some strange substance or material that’s all around us but we can’t see it, feel it or detect it...even with our most advanced technology.

Dark matter may be an invisible ingredient of the world all around us. If so, dark matter may be in the room with us right now..!
- EXTRA QUESTION (time permitting): If we can’t account for 90% of everything that exists, do you think we will ever really understand the Universe..?
 - There’s no right answer to this question, but however your students feel about it, talking about it will focus their attention on a central issue in science.

Even scientists will agree there are things we will probably never know. At the same time, they are driven by their desire to understand the world. And they continue to make so many new discoveries every year, teachers and textbooks can have a hard time keeping up with them. As a result, many scientists today are confident that the mystery of “dark matter” will be solved before too long. And, scientifically speaking, they would say there’s a chance it will be solved by someone who is sitting in this room right now.